# Vaccination Report - 7 December 2021

## 1. Vaccine Implementation

• WHO's Emergency Use Listing(EUL) Vaccines (Last Updated 11 Nov 2021)

	Manufacturer	Name of Vaccine	NRA of Record	Vaccine type	
1	Pfizer-BioNTech (US)	BNT162b2/COMIRNAT Y Tozinameran (INN) EMA/USFDA		mRNA	
2	AstraZeneca (UK)	ChAdOx1 (AZS1222 Vaxzevria)	EMA/ MFDS KOREA/ Japan MHLW/PMDA/ Australia TGA	Non ReplicatingViral vector	
3	Serum Institute of India (India)	Covishield (ChAdOx1_nCoV-19)	DCGI	Non Replicating Viral Vector	
4	Johnson &Johnson (US)	Ad26.CoV2.S	EMA	Non ReplicatingViral vector	
5	Moderna (US)	mRNA-1273	EMA/USFDA	mRNA	
6	Sinopharm Beijing (China)	BBIBP-CorV	NMPA	Inactivated virus (Vero Cells)	
7	Sinovac (China)	SARS-CoV-2 Vaccine	NMPA	Inactivated virus (Vero Cell)	
8	Bharat Biotech (India)	SARS-CoV-2 Vaccine, Inactivated (Vero Cell)/ COVAXIN	DCGI	Whole-Virion Inactivated (Vero Cell)	

## • 28 Vaccines Approved by at Least One Country

Vaccine Type	mRNA	Non Replicating Viral vector	Inactivated virus	Protein Subunit	DNA	Total
In Use	3	6	9	9	1	28

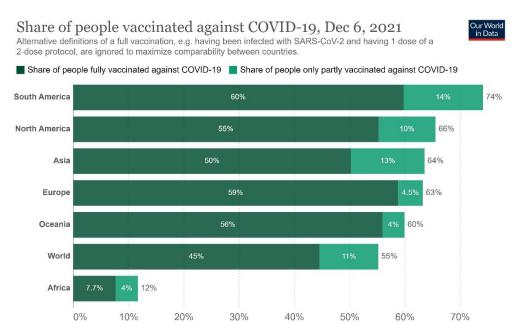
Source: <a href="https://covid19.trackvaccines.org/vaccines/">https://covid19.trackvaccines.org/vaccines/</a> (Last Updated 6 Dec 2021)

## Vaccination against COVID-19 has now started in 218 locations (Source: Our World in Data.Last Updated 6 Dec, 2021)

Location	Doses given	Fully vaccinated (% of population)	At least 1 dose (% of population)
Worldwide	8.24 billion	3.51 billion (44.55%)	4.34 billion (55.17%)

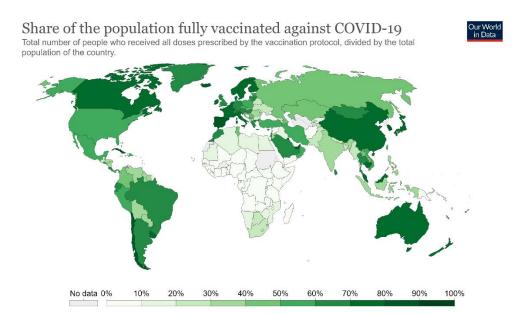
#### About this data:

- a: This data changes rapidly and might not reflect doses still being reported. It may differ from other sites & sources.
- b: Where data for full vaccinations is available, it shows how many people have received at least 1 dose and how many people have been fully vaccinated (which may require more than 1 dose). Where data for full vaccinations isn't available, the data shows the total number of vaccine doses given to people. Since some vaccines require more than 1 dose, the number of fully vaccinated people is likely lower.
  - c: It only has full vaccination totals in some locations.



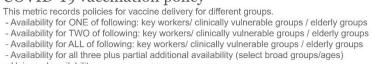
Source: Official data collated by Our World in Data. This data is only available for countries which report the breakdown of doses administered by first and second doses in absolute numbers.

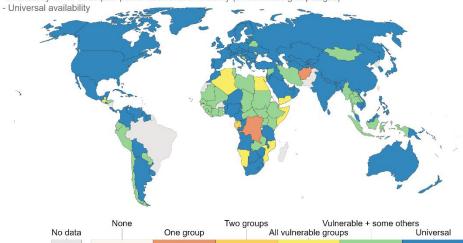
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Source: Official data collated by Our World in Data – Last updated 7 December 2021, 11:10 (London time)
Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.
OurWorldInData.org/coronavirus • CC BY

### COVID-19 vaccination policy





Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – Last updated 7 December 2021, 11:08 (London time) OurWorldInData.org/coronavirus • CC BY

### 2. Vaccine effectiveness against symptomatic infection for Alpha and Delta variants

Vaccine Status	Vaccine E	Effectiveness	
	Alpha	Delta	
1 Dose (BNT162b2 or ChAdOx1 nCoV-19)	48.7% (95%CI: 45.5-51.7%) <sup>1</sup> 66%(BNT162b2) <sup>4</sup> 64% (ChAdOx1) <sup>4</sup>	30.7% (95%CI: 25.2-35.7%) <sup>1</sup> 56%(BNT162b2) <sup>4</sup> 67%(ChAdOx1) <sup>4</sup> 82% (95% CI:73- 91%) <sup>7</sup>	
1 Dose (mRNA-1273)	83% <sup>4</sup>	72% <sup>4</sup>	
1 Dose(Sinopharm or Sinovac)	Unknown	13.8%,(95%CI: -60.2-54.8%) <sup>3</sup>	
2 Doses (BNT162b2)	93.7% (95%CI: 91.6-95.3) <sup>1</sup> 76% (95%CI: 69-81%) <sup>2</sup> 89% <sup>4</sup>	88% (95%CI: 85.3-90.1%) <sup>1</sup> 42% (95% CI: 13-62%) <sup>2</sup> 87% <sup>4</sup> 93%(95% CI: 88-97%/12-18Y) <sup>5</sup> 93% (95% CI: 88-97%) <sup>7</sup>	
2 Doses (ChAdOx1 nCoV-19)	74.5% (95%CI: 68.4-79.4%) <sup>1</sup>	67.0% (95%CI: 61.3-71.8%) <sup>1</sup>	
2 Doses (mRNA-1273)	86%, (95%CI: 81-90.6%) <sup>2</sup>	76%, (95% CI: 58-87%) <sup>2</sup>	
2 Doses(Sinopharm or Sinovac)	Unknown	59.0%, (95%CI: 16.0-81.6%) <sup>3</sup>	
3 Doses (BNT162b2)	Unknown	95.33% (SD 6.44) <sup>6</sup>	

#### References:

- 1) Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant
- 2) Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence



- 3) Efficacy of inactivated SARS-CoV-2 vaccines against the Delta variant infection in Guangzhou: A test-negative case-control real-world study
- 4) Effectiveness of COVID-19 vaccines against variants of concern in Ontario, Canada
- 5) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
- 6) A RCT of a third dose CoronaVac or BNT162b2 vaccine in adults with two doses of CoronaVac
- 7) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents

#### 3. Latest Relevant Articles

- Severe breakthrough COVID-19 cases in the SARS-CoV-2 delta (B.1.617.2) variant era
- Increased risk of SARS-CoV-2 reinfection associated with emergence of the Omicron variant in South Africa
- Third COVID-19 Vaccine Dose Boosts Neutralising Antibodies in Poor Responders
- Robust immune responses are observed after one dose of BNT162b2 mRNA vaccine dose in SARS-CoV-2 experienced individuals
- Immunogenicity, safety, and reactogenicity of heterologous COVID-19 primary vaccination incorporating mRNA, viral-vector, and protein-adjuvant vaccines in the UK (Com-COV2): a single-blind, randomised, phase 2, non-inferiority trial
- Strong humoral immune responses against SARS-CoV-2 Spike after BNT162b2 mRNA vaccination with a 16-week interval between doses

### 4. Other Information

- Lancet: Omicron SARS-CoV-2 variant: a new chapter in the COVID-19 pandemic
- EMA and ECDC recommendations on heterologous vaccination courses against COVID-19
- SARS-CoV-2 variants of concern and variants under investigation in England Variant of concern: Omicron(B.1.1.529)